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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,590	03/21/2002	Tomonori Sakurai	Q69019	6840

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WASHINGTON, DC 20037

EXAMINER

BOYKIN, TERRESSA M

ART UNIT	PAPER NUMBER
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1711

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DATE MAILED: 04/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/088,590	Applicant(s) SAKURAI ET AL.	
	Examiner Terressa M. Boykin	Art Unit 1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 March 2002.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4</u> . | 6) <input type="checkbox"/> Other: _____                                    |

### **PCT National stage application**

In accord with MPEP 609 II which states that "The examiner will consider the documents cited in the international search report in a PCT National stage application when the Form PCT/DO/EO/903 indicates that both the international search report and the copies of the documents are present in the national stage file." Since such is the case in this instance, the documents from the international search report, have been considered.

### **Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-15 are rejected under 35 U.S.C. 102(e) as being anticipated by EP00961159 see abstract, page 2 line 50 through page 6 line 23; JP 2001011171 see abstract and structural formula 1; JP 2002-542216 see abstract and structural formula 1.

**EP00961159** discloses a method for crystallizing a low molecular weight aromatic polycarbonate effectively and a method for preparing a polycarbonate resin having a desired intrinsic viscosity by using the polycarbonate crystallized with the above method of crystallization. A low molecular weight aromatic polycarbonate (preferably, the one produced by melt polycondensation) is crystallized by bringing it into contact with an aromatic monohydroxy compound or a mixture of said compound and water. Or, a low molecular weight aromatic polycarbonate is melt mixed with at least one or more kinds of compounds selected from the group consisting of aromatic monohydroxy compounds, carbonic acid diester compounds and aromatic dihydroxy compounds to crystallize the low molecular weight aromatic polycarbonate. The crystallized

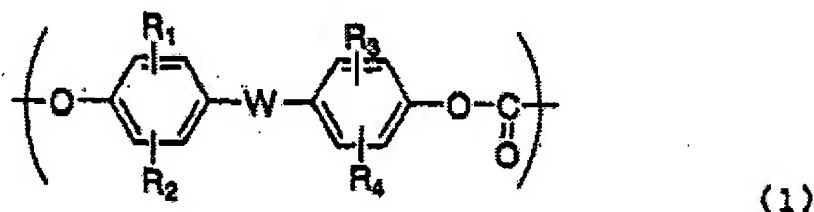
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product is heated at a temperature lower than its melting point under reduced pressure or in an inert gas flow to convert it into a high polymerized state.

The reference discloses the structural formula in claim 1:

#### Claims

1. A method for crystallizing a low molecular weight aromatic polycarbonate characterized in that an uncrystallized low molecular weight aromatic polycarbonate whose main recurrent unit is expressed by the following formula (1),

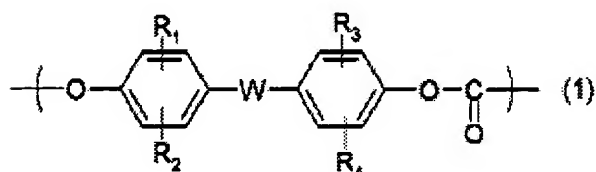


[In the formula (1),  $R_1$ ,  $R_2$ ,  $R_3$  and  $R_4$  are each independently a hydrogen atom, a halogen atom, a  $C_{1-10}$  alkyl group, a  $C_{7-20}$  aralkyl group or a  $C_{6-20}$  aryl group; W is a  $C_{2-10}$  alkylidene group, a  $C_{1-15}$  alkylene group, a  $C_{7-20}$  aryl-substituted alkylene group, a  $C_{3-15}$  cycloalkylidene group, a  $C_{3-15}$  cycloalkylene group, an oxygen atom, a sulfur atom, a sulfoxide group or a sulfone group], and which has an intrinsic viscosity  $[\eta]$  of 0.05 to 0.38 is crystallized by bringing it into contact with a monohydroxy compound or a mixture of said compound and water.

which is identical to that with is claimed by applicants. Thus, a polycarbonate resin having a desired intrinsic viscosity is prepared identical as that which is described and claimed by applicants.

**JP 2002-542216** discloses a process for crystallization of a low molecular weight polycarbonate in which a noncrystalline low molecular weight aromatic polycarbonate having a principal repeating unit of (1), and having an intrinsic viscosity of 0.05 - 0.38 is contacted with nitrile and crystallized.

A process for crystallization of a low molecular weight polycarbonate in which a noncrystalline low molecular weight aromatic polycarbonate having a principal repeating unit of (1), and having an intrinsic viscosity of 0.05 - 0.38 is contacted with nitrile and crystallized.



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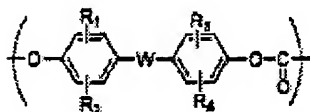
wherein R1, R2, R3 and R4 = hydrogen atom, halogen atom, 1-10C alkyl, 7-20C aralkyl, or 6-20C aryl;

W = 2-10C alkylidene, 1-15C alkylene, 7-20C aryl substituted alkylene, 3-15C cycloalkylidene, 3-15C cycloalkylene, oxygen atom, sulfur atom, sulfoxide or sulfone group.

The crystallization process is useful for producing a polycarbonate resin of good hue, high molecular weight and little gel component. The process is advantageous in that it affords a low molecular weight aromatic polycarbonate can be crystallized without generating fine powder.

The reference **JP 2001011171** solves the problem of efficiently crystallize a low molecular weight aromatic polycarbonate by the melt mixing of a specific uncrystallized low molecular weight aromatic polycarbonate with a specific crystallized aromatic polycarbonate in a specific weight ratio at a specific temperature and by retaining them at a specific temperature to cause crystallization.

The polycarbonate has a main recurrent unit expressed by the following:



The reference discloses the that the polymer is obtained by the melt mixing of 100 pts.wt. of an uncrystallized low molecular weight aromatic polycarbonate having a main repeating unit of the formula (wherein R1 to R4 are each H, a halogen, or the like; and W is an alkylidene, an alkylene, or the like) and an intrinsic viscosity [ $>0.25$  at a temperature below the melting point of the ingredient B and by retaining the mixture at a temperature not lower than the glass transition temperature of the ingredient A and lower than the melting point of the ingredient B to cause crystallization, and is useful for producing polycarbonate resin having a high polymerization degree.

Applicants' claims are anticipated by the references above specifically with regard to the structural formula of the recurrent unit of the uncrystallized aromatic polycarbonate, the particular intrinsic viscosity range and the low molecular weight aromatic polycarbonate produced therefrom and the process of melt mixing of a specific uncrystallized low molecular weight aromatic polycarbonate contacting with a monohydroxy compound. In view of the above, there appears to be no significant difference between the reference(s) and that which is claimed by applicant(s). Any

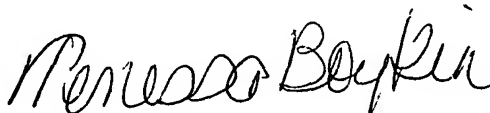
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differences not specifically mentioned appear to be conventional. Consequently, the claimed invention cannot be deemed as novel and accordingly is unpatentable.

**Correspondence**

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Examiner Terressa Boykin, via the receptionist whose telephone number is (703) 308-2351. The examiner can normally be reached on Monday through Friday from 8:00a.m.-5:30 p.m.

tmb

A handwritten signature in black ink, appearing to read "Terressa Boykin". The signature is fluid and cursive, with the first name "Terressa" written in a more compact, stylized manner and the last name "Boykin" written more fully.

*Examiner Terressa Boykin*  
*Primary Examiner*  
*Art Unit 1711*